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| 10/532,930      | 04/27/2005  | Andries Pieter Hekstra | NL 021115           | 4450             |

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
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EXAMINER

LAMARRE, GUY J

ART UNIT PAPER NUMBER

2133

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/532,930

Applicant(s)

HEKSTRA ET AL.

Examiner

Guy J. Lamarre

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 27 April 2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

- \* Applicant's pre-amendment of 27 April 2005 is entered. The Examiner has considered the Applicant's IDS of 27 April 2005.
- \* Pursuant to 35 USC 131, **Claims 1-10** (is) are presented for examination.

### Drawings

1. Drawings 1-2 are objected to because the numerical labels do not convey adequate information to allow understanding of what is depicted without direct reference to the disclosure. Such Drawings shall be corrected accordingly. Appropriate correction is required.

### Claim Objections

2. **Claims 1-10** (is) are objected to for reciting bracketed information which are given no patentable weight. Appropriate correction is required.

### Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 3.0 **Claims 1-10** (is) are rejected under 35 U.S.C. 102(e) & (b) as being anticipated by **Nill et al.** "*List and Soft Symbol Output Viterbi Algorithms: Extensions and Comparisons*"; April 1995" IDS of 27 April 2005.

As per **Claims 1-10**, **Nill et al.** discloses equivalent data communication comprising decoding techniques for processing data via list Viterbi algorithmic techniques wherein metric costs/differences (e.g., pages 277-284) are employed along with hybrid ARQ (e.g., page 279: col. 2 para. 1) to effect decoding of coded data, such metric costs/differences comprising cumulated metric cost compare with thresholds, branch concatenations for trellis traceback, list reduction

criteria (e.g., Fig. 1a and page 279: Section III, equation 1.) for best path candidate selection.

**As per Claim 1, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, for Receiver (1) for receiving at least one encoded block signal and comprising a processor system (2) for generating branch signals in dependence on said block signal, said branch signals defining branches of a trellis, (18) and generating node signals defining nodes of said trellis, (18) and generating cost signals defining cost per branch, and generating path signals defining paths in said trellis (18) for selecting candidates for said block signal, wherein said processor system (2) combines cost signals for series of branches and compares cumulated cost with thresholds for said selecting of candidates (e.g., Fig. 1a and page 279: Section III, equation 1.).

**As per Claim 2, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Receiver (1) according to claim 1, wherein said processor system (2) compares said cumulated cost with increasing thresholds per trellis (18), with cost signals being a function of branch signals and/or node signals.

**As per Claim 3, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Receiver (1) according to claim 1, wherein said processor system (2) combines at least some of said cost signals for series of branches by concatenating ()(e.g., Fig. 1a and page 279: last para @ col.1) a first series of one or more branches and a second series of one or more branches which have at least one node in common (e.g., Fig. 1a and page 279: Section III, equation 1.).

**As per Claim 4, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Receiver (1) according to claim 1, wherein said processor system (2) generates said cost signals in a first trellis direction and combines cost signals in a second trellis direction, with said first trellis direction and said second trellis direction being different.

**As per Claim 5, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284,

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techniques for Receiver (1) according to claim 4, wherein said processor system (2) combines said cost signals for at least three series of one or more branches, with a first series of one or more branches being lexicographically smaller than a second series of one or more branches and with the second series of one or more branches being lexicographically smaller than a third series of one or more branches(e.g., Fig. 1a and page 279: Section III, equation 1.).

**As per Claim 6, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Receiver (1) according to claim 1, wherein said processor system (2) detects a check sum of said candidates, with a first sub-part being used for list reduction and with a second sub-part being used for error detection(e.g., page 279: col. 2 para. 1).

**As per Claim 7.** Receiver (1) according to claim 6, wherein said processor system (2) in case of zero candidates satisfying a list reduction criterion requests a data retransmission (e.g., page 279: col. 2 para. 1) or orders an audio/video action and in case of one candidate satisfying a list reduction criterion selects this candidate and in case of two or more candidates satisfying a list reduction criterion (e.g., Fig. 1a and page 279: Section III, equation 1.). selects the candidate with the lowest cost, with said processor system (2) testing the selected candidate via an error detection criterion(e.g., Fig. 1a and page 279: Section III, equation 1.).

**As per Claim 8, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Processor system (2) for use in a receiver (1) for receiving at least one encoded block signal and comprising said processor system (2) for, in dependence on said block signal, generating branch signals defining branches of a trellis (18) and generating node signals defining nodes of said trellis (18) and generating cost signals defining cost per branch and generating path signals defining paths in said trellis (18) for selecting candidates(e.g., Fig. 1a and page 279: Section III, equation 1.). for said block signal, wherein said processor system (2) combines cost signals for series of branches and compares cumulated cost with thresholds for said selecting of

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candidates(e.g., Fig. 1a and page 279: Section III, equation 1.).

**As per Claim 9, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Method for use in a receiver (1) for receiving at least one encoded block signal and comprising the steps of, in dependence on said block signal, generating branch signals defining branches of a trellis (18) and generating node signals defining nodes of said trellis, (18) and generating cost signals defining cost per branch, and generating path signals defining paths in said trellis (18) for selecting candidates (e.g., Fig. 1a and page 279: Section III, equation 1.). for said block signal, wherein said method comprises the steps of combining cost signals for series of branches and comparing cumulated cost with thresholds for said selecting of candidates.

**As per Claim 10, Nill et al.** discloses equivalent data decoding techniques in e.g., pages 277-284, techniques for Processor program product to be run on a processor system (2) for use in a receiver (1) for receiving at least one encoded block signal and comprising said processor system (2), which processor program product comprises the functions of, in dependence on said block signal, generating branch signals defining branches of a trellis, (18) and generating node signals defining nodes of said trellis, (18) and generating cost signals defining cost per branch and generating path signals defining paths in said trellis (18) for selecting candidates for said block signal, wherein said processor program product comprises the functions of combining cost signals for series of branches and comparing cumulated cost with thresholds for said selecting of candidates(e.g., Fig. 1a and page 279: Section III, equation 1.).

### CONCLUSION

\* Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

**or faxed to:** (571) 273-8300 for all formal communications.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (571) 272-3826. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached at (571) 272-3819.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3609.

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Guy J. Lamarre, P.E  
Primary Examiner  
5/15/2006

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